

**I claim:**

1. A system for remotely controlling the output of one or more optical components comprising

(a) a first optical component;

(b) a microcontroller connected to said first optical component adapted to monitor output information from said first optical component;

(c) a databus connected to said microcontroller and adapted to convey the output information to a remote user.

2. The system of claim 1, wherein said microcontroller and said databus are adapted to allow a remote user to control the output power of said first optical component.

3. The system of claim 1, wherein the first optical component is an optical transmitter.

4. The system of claim 3, wherein said microcontroller and said databus are adapted to allow a remote user to control the output power of said optical transmitter.

5. The system of claim 3, wherein said optical transmitter includes a laser whose performance is affected by a bias current and by its temperature; and wherein said microcontroller and said databus are adapted to allow a remote user to control the laser bias current and the laser temperature of said optical transmitter.

6. The system of claim 1, wherein the first optical component is an optical receiver.

7. The system of claim 6, wherein said receiver includes a voltage supply and wherein said microcontroller and said databus are adapted to allow a remote user to control the voltage supply of said receiver.

8. The system of claim 2, wherein the system includes a second optical component consisting of a receiver.

9. A transponder including

- (a) a transmitter having an output;
- (b) a receiver having an output;
- (c) one or more other optical components, each of which has an output;
- (d) a microcontroller adapted to allow a user to remotely monitor and control one or more of the outputs of said transmitter, said receiver, and said one or more other optical components.

10. A method for remotely controlling the output of an optical component having one or more performance characteristics consisting of

- (a) connecting a microcontroller to said optical component;
- (b) using said microcontroller to monitor one or more performance characteristics of said optical component;
- (c) monitoring the one or more performance characteristics of said optical component;
- (d) determining if any of the one or more performance characteristics of said optical component needs to be changed; and
- (d) using said microcontroller to change the one or more performance

characteristics of said optical component.

11. The method of claim 10, including the additional step of sending a command to said microcontroller instructing said microcontroller to begin the monitoring step.

12. The method of claim 11, including the additional step of receiving information back from said microcontroller.

13. The method of claim 10, including the additional step of sending a command from the microcontroller to said optical component to cause the change to the one or more performance characteristics of said optical component.

14. The method of claim 13, wherein the additional step of sending said command includes sending voltages or currents to the optical component.

15. The method of claim 13, including the additional step of causing the microcontroller to monitor the one or more performance characteristics of said optical component after said command is sent.

16. The method of claim 10, wherein said optical component comprises an optical transmitter.

17. The method of claim 10, wherein said optical component comprises an optical receiver.

18. The method of claim 10, wherein said optical component is selected from the group consisting of an optical modulator, an optical multiplexer, an optical demultiplexer, an optical switch, an optical power splitter, an optical power combiner, an optical amplifier, an optical polarizer, an optical circulator, an optical laser module, and an optical transceiver.

19. The method of claim 10, including the additional steps of setting a threshold level for said one or more performance characteristics and determining if said threshold level is reached.

20. The method of claim 19, including the additional step of creating an alarm signal for one or more of the threshold levels of said one or more performance characteristics.

21. The method of claim 20, including the additional step of triggering an alarm if one or more performance characteristic rises above its threshold level.

22. The method of claim 21, including the additional steps of using the microcontroller to sense the triggering of the alarm and using the microcontroller to send a signal to the user when the alarm is triggered.

23. The method of claim 19, including the step of changing one or more of the threshold levels.